

**Amendments to the Specification:**

Please insert the following new paragraphs (excluding line numbers) after the paragraph ending on page 10, line 16:

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1	Figure 34.	Figure 34 illustrates a submenu for an interactive television service in accordance with one aspect of the disclosure.
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3	Figures 35a-35g.	Figures 35a-35g illustrate overlaying screens for creating a
4		hit movie major menu in accordance with various aspects
5		of the disclosure.
6	Figures 36a-36g.	Figures 36a-36g illustrate overlaying screens for creating a
7		hit movie description submenu in accordance with various
8		aspects of the disclosure.
9	Figures 37a-37b.	Figures 37a-37b illustrate use of split screen techniques in
10		accordance with various aspects of the disclosure.
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Please insert the following new paragraphs (excluding line numbers) after the paragraph ending on page 60, line 5:

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Various other embodiments are illustrated in Figs. 34, 35a-35g, 36a-36g, and 37a-37b in accordance with various features of the disclosure.

Figure 34 includes an interactive submenu, which includes an example of taking a complete television program video, scaling it down to a smaller size and directing the video into a video window of a submenu. The process for creating the interactive submenu in figure 34 may include selecting a video channel, decompressing the video channel, scaling the video to change its size, and redirecting the video to change its location.

Figures 35a through 35g and Figures 36a through 36g, show how menus are generated in more detail by the set top terminal 220. Figures 35a through 35g display the building of a major menu screen for the category hit movies. Figure 35a shows the background graphics for the hit movie

major menu. The background graphics 1500 comprise an upper sash 1502 across the top of the screen and a lower sash 1504 across the bottom of the screen. The background graphics are generated from the background graphics file 800 in the memory files of the graphics memory (preferably EEPROM) 620. In particular, the hit movie major menu background graphics are located in the universal main menu backgrounds subfile 804 of the background graphics file 800. This universal major menu background graphic 1500 is consistently used in nearly all the major menus.

Figure 35b shows the logo graphics for the hit movie major menu. The logo graphics 1508 for this major menu consist of an icon window 1510, a cable company logo 1512 in the lower left-hand portion of the screen, a channel company logo 1514 in the upper right-hand part of the screen and two "go" buttons 1516. The icon graphics 1510 are consistently shown in each of the major menus. The cable company logo 1512 is consistently shown in the lower left-hand part of the screen in nearly every major menu. These logo graphics 1508 are created from the logo graphics file 820 in the EEPROM 620. In particular, the cable company logo 1512 in the lower left-hand corner of the screen is located in The Your Choice TV logos 824 part of the logo graphics file. The network logo 1514 in the upper right-hand corner of the screen is generated from the network logo file 828 of the logo graphics file 820. The "go" buttons 1516 are generated from the graphic elements file 840 of the logo graphics file 820.

Figure 35c shows the addition of menu displays 1520 to the hit movie major menu. In particular, Figure 35c shows a ten block main menu display 1520 and a strip menu 1522 in the lower part of the screen. The ten display blocks 1520 of Figure 35c are generated from the menu display block's subfile 854 of the menu display and cursor graphics file 850 shown

in Figure 10. The strip menu 1522 located on the lower part of the screen is also generated from the menu display block's subfile 854.

Figure 35d shows the addition of a cursor highlight overlay 1526 to the hit movie major menu. The cursor highlight overlay 1526 is generated from the cursor highlight overlay's submenu 858 of the menu display and cursor graphics file 850 shown in Figure 10. In the preferred embodiment, the cursor highlight overlay 1526 is shown by default to be in the upper left-hand menu display block of each major menu. This cursor highlight overlay 1526 can be moved on the screen by the subscriber using his cursor movement buttons 970.

Figure 35e shows the text 1530 generated for the hit movies major menu. In the preferred embodiment, the text 1530 is generated separately by a text generator in the set top terminal unit 220. Those portions of the text that generally remain the same for a period of weeks or months may be stored in EEPROM 620 or other local storage. For example, the text "HIT MOVIES from" 1531 will consistently appear on each hit movies' major menu. This text may be stored on EEPROM 620 or other local storage. Further, text such as that which appears at the lower center part of the screen "PRESS HERE TO RETURN TO CABLE TV" 1532 appears many times throughout the menu sequence. This text may also be stored locally at the set top terminal 220. Text which changes on a regular basis, such as the movie titles (or other program selections), will be transmitted to the set top terminal 220 by either the operations center 202 or the network controller 214 of the cable headend 208. In this manner, the cable headend 208 may change the program selections available on any major menu 1020 by modifying the program control information signal sent by the operations center 202 and transmitting the change via the STIeIS. It is preferred that

the text 1530 be generated separately from the graphics because the text can be stored locally in a more compact manner requiring less storage space. In addition, it allows for easy communication of text changes from the operations center 202 or cable headend.

In alternative embodiments, portions of the text, particularly those portions which remain constant, may be incorporated into the graphics and stored in either the background graphics file 800 or the logo graphics file 820.

Figure 35f shows the addition of day 1534, date 1536 and time 1538 information to the hit movies major menu. This information may be obtained in a variety of ways. The day, date, and time information 1540 may be sent from the operations center 202, the cable headend (signal processor or network controller 214), the uplink site, or generated by the set top terminal unit 220 internally. Each manner of generating the day, date, and time information 1540 has advantages and disadvantages which may change given the particular embodiment and costs. In the preferred embodiment, the day, date, and time 1540 are generated at a central location such as the operations center and are adjusted for regional changes in time at the cable headend.

Figure 35g shows the results of the information in Figures 35a to 35f being integrated in the combiner 624 and then displayed on the television screen 222. The subscriber in viewing the hit movie major menu 1040 is unaware of the fact that the menu comprises several distinct part.

Figures 36a through 36g show the creation and display of a program description submenu for a hit movie. Similar to the major menu, the submenu is created in parts and combined before being sent to the television screen. Figure 36a shows the background graphics 1550 for the

program description submenu. In the preferred embodiment, the upper sash 1552 and lower sash 1554 of the background graphics 1550 are stored together in one location on the EEPROM 620. The video window and half-strip window 1558 are also co-located in storage on the EEPROM 620. The half-strip window 1558 beneath the video window serves 1556 as a means for describing the videos shown in the video window 1556. Both sets of graphic information 1550, the sashes 1552, 1554 and video window 1556 with description 1558, are located in the universal submenu backgrounds subfile 808 of the background graphics file 800. Both sets of backgrounds appear in many menus and are used many times during a sequence of menus.

Figure 36b shows the additional logo graphics information 1508 needed to create the program description submenu. In the preferred embodiment, the "go" logo 1516 can be stored once in memory 620 and directed to the correct portion of the screen in which it is needed for a particular memo. Similar to Figure 35b, the information needed to create the "your choice" logo 1512 and "go" buttons 1516 is stored in the logo graphics file 820.

Figure 36c shows the addition of menu display information 1520 for the program description submenu. Similar to Figure 35c, the information needed for Figure 36c menu display blocks is stored in the menu display blocks' subfile 854 of the menu display and cursor graphics 850. In this particular submenu, there are three menu display blocks of rectangular shape.

Figure 36d shows the addition of cursor highlight overlay information 1526 for the program description submenu. This information is obtained from the cursor highlight overlay submenu 858. For most major

132 menus 1020 and submenus 1050, only one cursor highlight overlay 1526  
133 will appear on the screen at a given time. More cursor highlight overlays  
134 1526 will appear on a screen when the subscriber is presented with more  
135 than one question. The number of cursor highlight overlays 1526 will  
136 generally correspond with the number of questions being presented to the  
137 subscriber on the menu. The cursor highlight overlay 1526 is generally  
138 assigned a default position on each menu screen and is moved by the  
139 subscriber using either the remote control 900 or the buttons 645 located at  
140 the top of the set top terminal 220.

141 Figure 36e shows the text generation 1530 necessary for the program  
142 description submenu for a hit movie. As in Figure SSe, some of the text for  
143 the program description submenu is consistently on each program  
144 description submenu, such as "PRESS HERE TO RETURN TO CABLE  
145 TV." This textual information may be stored locally as opposed to being  
146 derived from the STTCIS. Regardless of where the text information is  
147 stored, it must be processed through the text generator 621 before being  
148 sent to the combiner 624.

149 Figure 36f shows the addition of video 1560 to the video window  
150 1556. In an alternative embodiment, the video shown in the program  
151 description submenu is a still picture. The still picture may be stored in a  
152 compressed format (such as JPEG) at the set top terminal 220. These video  
153 stills 1560 that are used on program description submenus as well as other  
154 menus, may be transmitted by the operations center 202 through the  
155 program control information signal from time to time.

156 In the preferred embodiment, the video window 1556 shows a  
157 moving video picture. For the hit movies category, the moving video  
158 picture may be obtained directly from a current feed of the described

159 movie. For example, the movie video 1560 shown may be taken directly off  
160 of a channel which is currently showing the movie Terminator. The set top  
161 terminal 220 would decompress the channel with the movie Terminator and  
162 then manipulate the video signal to place it in the video window 1556. This  
163 manipulation of the video signal includes scaling down the size of the video  
164 screen and redirecting the video to a portion of the menu screen which is  
165 within the video window of the menu.

166 Another method of getting the moving video to the video window  
167 portion of the submenu, is to obtain the video from a split screen channel.  
168 This method involves the use of split screen video techniques to send  
169 multiple video clips on a single channel at a given time. For example, a  
170 channel may be divided into eight portions of screen space and one of the  
171 eight positions may carry the Terminator video clip. The set top terminal  
172 220 would decompress the channel and manipulate on the one-eighth  
173 portion of the screen desired in the video window of the submenu. The set  
174 top terminal 220 would scale the one-eighth picture, if necessary, and  
175 redirect it to the correct position on the screen using known scaling and  
176 positioning techniques. Additional circuitry may be required in the set top  
177 terminal 220 to perform adequate scaling and repositioning.

178 Figure 36g shows the final product resulting from the combining of  
179 Figures 36a through 36f. The combiner 624 integrates each of these  
180 portions of information into a single menu screen 1120.

181 The combiner 624 which displays the menus on the television screen  
182 obtains information primarily from three locations, the graphics generator  
183 622, the text generator 621, and the video decompressor 618 (with other  
184 video manipulation equipment, if necessary). The graphics generator 622  
185 primarily obtains information from the graphic memory unit 620 but may

186 receive information in the STTCIS. The text generator 621 primarily  
187 receives its information from a separate memory for text. However, in  
188 certain embodiments the text information may be stored in the graphics  
189 memory 620 or may be taken directly off the STTCIS. The video signal  
190 which is sent to the combiner 624 may come directly from one or more  
191 video decompressors or ancillary video manipulation equipment.

192 One of the methods for video clips or promotional video to be sent to  
193 the set top terminal 220 is through the use of split screen video techniques.  
194 Figure 37a shows the throughput of a single channel using a split screen  
195 video technique to divide the channel into four parts. In this manner, four  
196 different video clips may be simultaneously sent on a single channel.  
197 Program description submenus can acquire one of the video dips shown on  
198 the split channel at any given time. Generally, this requires the set top  
199 terminal 220 to decompress the entire channel, acquire one-fourth of the  
200 video information, scale the video (if necessary), and redirect the video.  
201 Using this split screen technique 1602, numerous video clips may be sent  
202 over a limited number of channels.

203 Figure 37b shows an embodiment 1604 in which forty eight different  
204 video dips are sent simultaneously on a single channel using split screen  
205 video techniques. In this embodiment, the video signal may need to be  
206 scaled upwardly to enlarge the picture for viewing in a video window or on  
207 a full screen.

208 In an alternative embodiment, which avoids the need for redirecting  
209 video into the portion of the screen which houses the video window 1556,  
210 masking and menu graphics are used to cover the portions of the channel  
211 video that are not needed. This masking technique allows the split screen  
212 video to remain in the same portion of the screen that it is transmitted by



the operations center. The masking then is adjusted to cover the undesired portions of the screen. These masks would be stored in the background graphics file 800 similarly to other background files for menus. The advantage of the system is the cost savings in not needing to redirect video. The disadvantage of the system is that the video window on a description submenu, for example, would not remain in the same location from menu to menu. This inconsistency in video window location detracts from the aesthetically pleasing aspects of the menu layouts.

If the masking technique were used in conjunction with the split screen video shown in Figure 37a, each submenu would have approximately one-quarter screen of video and three-quarter screen of graphic and text information. For example, a submenu or promo menu for a basketball game would mask all but the upper right-hand corner of the screen. Following masking, other background graphics 1550, logo graphics 1508, menu display 1520, cursor graphics 1526, and text information 1530 would be overlayed over the three-quarter mask. In a similar manner, a submenu or promo menu for a hockey game would also have a three-quarter mask. This three-quarter mask would mask all but the lower right-hand corner of the screen. Again, the remaining menu graphics, logos and textual information would overlay the three-quarter mask. As you can see from this example, four different three-quarter masks must be stored in the background graphics file 800 for use in the four possible video window positions.

The split screen video technique may also be used for promoting television programming. Since a great number of short video clips may be sent continuously (such as in Figure 37b), full or partial screen promotionals (or informationals) may be provided to the subscriber. With

240           this large quantity of promotional video, subscribers may be given the  
241           opportunity to “*graze*” through new movie or television programming  
242           selections. The subscriber would simply graze from promotional video to  
243           promotional video until he found the television program of his liking. Once  
244           he has found that program he may choose to order it.